

MK 5 Marine Mammal System recovers training mines. MK 5 MMS embarked aboard the contract ship MV Surveyor and provided mine exercise training support for Southern California Offshore Range (SCORE) at San Clemente Island 1-5 April 2019. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities. MK 5 MMS was tasked with localization and recovery of 38 air dropped Mine Exercise Training Shapes (METS) at San Clemente Island in depths of up to 450' ISO training events for the USAF 340th Weapons Squadron and USMC Marine Air Group 11. MK 5 recovered all assets configured IAW system specifications. Estimated replacement value of assets recovered is \$303,276. NIWC Pacific Code 56730 employees (b)(6) organized and led the recovery operation. POC: (b)(6), Code 56730, (b)(6).

Code 56730 MK 5 Marine Mammal System locates lost UUV for recovery 27-28 March 2019. MK 5 MMS is a deep water recovery system which utilizes California Sea Lions to rapidly retrieve objects from the sea floor in depths beyond human capabilities. Beach Master Unit One (BMU1) was operating an Unmanned Underwater Vehicle (UUV) as part of exercise Pacific Blitz in the waters off Camp Pendleton when the UUV was lost. MK 5 was asked to assist in locating and recovering the UUV. Within 15 hours of receiving the request for assistance, the MK 5 team successfully located the partially buried object, and facilitated recovery the following day with Navy Consolidated Diving Unit (NCDU) divers. NIWC Pacific Code 567 employees (b)(6) participated in the recovery operation. POC: (b)(6), Code 56702, (b)(6)

Code 715 MK 5 Completes Exercise Mine Recovery Operation. On 19-21 Dec 2018 MK 5 MMS embarked aboard Research Vessel MERLIN and provided mine exercise training support for Southern California Offshore Range (SCORE) near San Clemente Island. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 715 employees (b)(6) organized and led the recovery operation. Veterinary support was provided by US Army Veterinary Corps animal care specialist (b)(6). MK 5 MMS was tasked with localization and recovery of four MK 67 Submarine Launched Mobile Mine (SLMM) training shapes in support of Commander, Mobile Mine Assembly Group. MK5 recovered all assets within system specifications, with an estimated replacement value of \$750,000. POC: (b)(6), Code 71502, (b)(6)

Code 715 MK 5 Completes CTX Exercise Mine Recovery Operation. On 21-23 Aug 2018 MK 5 MMS embarked aboard Naval Recovery Craft 1 (RSC-1) and provided mine exercise training support for Southern California Offshore Range (SCORE) at San Clemente Island. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 715 employees (b)(6) organized and led the recovery operation. MK 5 MMS was tasked with localization and recovery of Air Dropped Mine Exercise Training Shapes (METS) at San Clemente Island at depths of up to 400 fsw in support of USN Carrier Strike Group 15 Composite Training Unit Exercise (CTX). MK5 recovered 12 METS with an estimated replacement value of \$96,000. POC: (b)(6), Code 71502, (b)(6)

Code 715 MK 5 Marine Mammal System completes exercise mine recovery operations. 1-15 Aug 2018, MK 5 MMS provided mine exercise training shape recovery in support of RIMPAC 2018. The MK 5 MMS

is a deep water recovery system which utilizes California Sea Lions to rapidly retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 715 employee (b)(6) organized and led the recovery operation. MK 5 is the leading recovery asset for RIMPAC Mine Exercise Training Shapes (METS). MK5 recovered 106 METS with an estimated replacement value of \$2,133,610. POC:

(b)(6), Code 71502, (b)(6)

Code 715 MK 5 Marine Mammal System completes exercise mine recovery operation. 6-9 November 2017, MK 5 MMS provided mine exercise training support for SPAWAR Systems Center Pacific Code 56403. The MK 5 MMS is a deep water recovery system which utilizes California Sea Lions to rapidly retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 715 employee (b)(6) organized & led the recovery operation. MK 5 was tasked with localization & recovery of 12 MK 49, one MK 53, and one MK 46 mine exercise training shapes. MK 5 recovered all assets, with an estimated replacement value \$81,177. POC: (b)(6), Code 71502, (b)(6)

Code 715 MK 5 completes exercise mine recovery operation. 28-31 August 2017 MK 5 MMS embarked aboard Naval Recovery Craft 1 and provided mine exercise training support for USS Theodore Roosevelt Composite Training Unit Exercise, & USAF 20th Bomber Squadron. MK 5 is a deep water recovery system that utilizes California sea lions to rapidly retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 715 employees (b)(6) organized and led the recovery operation. MK 5 recovered 29 assets, with an estimated replacement value of \$232,000 POC:

(b)(6), Code 71502, (b)(6)

Code 715 MK 5 completes exercise mine recovery operation. 14-15 August 2017 MK 5 MMS embarked aboard Naval Recovery Craft 1 and provided mine exercise training support for SSC Pacific Code 56403. MK 5 is a deep water recovery system that utilizes California sea lions to rapidly retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 715 employee (b)(6) organized and led the recovery operation. MK 5 was tasked with localization and recovery of (13) Mk 74 Mod 1 versatile exercise mines (VEM) and one Mk 75 VEM. MK 5 recovered all assets, with an estimated replacement value of \$7,541,000. POC: (b)(6), Code 71502, (b)(6)

Code 715 MK 5 completes exercise mine recovery operation. July 17-21 MK 5 MMS embarked aboard Naval Recovery Craft 1 (RSC-1) and provided mine exercise training support for Southern California Offshore Range (SCORE) on the Tanner Banks 111 miles west of San Diego. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 715 employees (b)(6) organized & led the recovery operation. MK 5 MMS was tasked with localization & recovery of moored and bottom Mine Exercise Training Shapes (METS) on the Tanner Banks at depths up to 812 fsw in support of COMSUBPAC CTG 34.4. 15 MK 49 Moored mines, 13 MK 55 & 2 Mk-44 laying mines were recovered. MK 5 recovered all assets configured to MK 5 system specifications. Estimated replacement value of assets recovered is \$ 327,000 USD.

Code 715 MK 5 Completes CTX17 & 9BS Exercise Mine Recovery Operation. On 8-12 May 2017 MK 5 MMS embarked aboard Naval Recovery Craft 1 (RSC-1) and provided mine exercise training support for Southern California Offshore Range (SCORE) at San Clemente Island. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths

beyond human capabilities. SSC Pacific Code 715 employees (b)(6) organized and led the recovery operation. MK 5 MMS was tasked with localization and recovery of Air Dropped Mine Exercise Training Shapes (METS) at San Clemente Island at depths of up to 400 fsw in support of USN Carrier Strike Group (CTX) 17 and USAF 9th Bomber squadron (9BS). MK5 recovered 53 METS with an estimated replacement value of \$476,000 USD. POC: (b)(6), Code 71502,

(b)(6)

MK 5 completes 9BS exercise mine recovery operation. MK 5 MMS embarked 9-14 January 2017 aboard Naval Recovery Craft 1 (RSC-1) and provided mine exercise training support for Southern California Offshore Range (SCORE) at San Clemente Island. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 71530 employees (b)(6) organized and led the recovery operation. MK 5 MMS was tasked with localization and recovery of Air Dropped Mine Exercise Training Shapes (METS) at San Clemente Island at depths of up to 400' fsw to provide data & training for USAF 9th Bomber Squadron (9BS). MK 5 recovered (45) METS configured to MK 5 system specifications, with an estimated replacement value of \$ 425,000 USD. POC: (b)(6), Code 71502, (b)(6)

Code 715 MK 5 Completes CTX16 Exercise Mine Recovery Operation. On 15-17 November 2016 MK 5 MMS embarked aboard Naval Recovery Craft 1 (RSC-1) and provided mine exercise training support for Southern California Offshore Range (SCORE) at San Clemente Island. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 71530 employees (b)(6) organized and led the recovery operation. MK 5 MMS was tasked with localization and recovery of Air Dropped Mine Exercise Training Shapes (METS) at San Clemente Island at depths of up to 400 fsw in support of CTX16 participation of USN Carrier Air Wing Two (CVW-2). MK 5 recovered (21) MK-62 Quick Strike METS configured to MK 5 system specifications, with an estimated replacement value of \$168K. POC: (b)(6), Code 71502, (b)(6)

Code 715 MK 5 completes RIMPAC exercise mine recovery operation

July 31-Aug 6 2016 MK 5 MMS embarked aboard Naval Recovery Craft 1 (RSC-1) and provided mine exercise training support for Southern California Offshore Range (SCORE) at San Clemente Island. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 71530 employees (b)(6) organized and led the recovery operation. MK 5 MMS was tasked with localization and recovery of Air Dropped Mine Exercise Training Shapes (METS) at San Clemente Island at depths of up to 450 fsw in support of RIMPAC 2016 participation of USAF 37th and 9th Bomber Squadrons. MK 5 recovered all assets configured to MK 5 system specifications, including (81) MK-62 Quick Strike METS, (3) MK-65 laying mine METS, and (1) MK-63 Quick Strike MET, with an estimated replacement value of \$ 716K. POC: (b)(6), 71500, (b)(6).

April 25-May 24 2016 the MK 5 Marine Mammal System (MMS) deployed to 5th Fleet area of responsibility to provide mine exercise training support for the International Mine Countermeasures Exercise (IMCMEX) 2016. IMCMEX is a defensive mine countermeasures exercise held in the international waters of the Middle East. IMCMEX serves to reinforce relationships with international

partners, improve capability within the area of responsibility, and strengthen the regional capacity to improve interoperability of 30 participating nations. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 715 employees (b)(6) organized and led the recovery operation. MK 5 was tasked with localization and recovery of Mine Exercise Training Shapes (METS) in the Gulf of Oman, Kuwait and Central Arabian Gulf in support of IMCMEX 2016. Airlift was provided by VR-57. Sea lions and crew flew direct from North Island NAS into Bahrain and embarked aboard USNS Catawba. While aboard Catawba, MK 5 sailed over 1600 nautical miles and recovered 59 mine simulators, with an estimated replacement value of \$706,500. The four week deployment represents MK 5's longest expeditionary recovery operation in the region to date.

MK 5 completes exercise mine recovery operation April 12-13 2016 MK 5 MMS embarked from SSC Pacific Point Loma and provided mine exercise training support for HFWB SIBR/TTS (High Frequency Wideband target test) for NSWC Panama City in the waters off Imperial Beach, CA. The MK 5 MMS is a deep water recovery system which utilizes California Sea Lions to retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 71530 employees (b)(6) organized & led the recovery operation. MK 5 MMS was tasked with localization & recovery of 32 Mine Exercise Training Shapes (METS) in the Imperial Beach SCORE range. MK 5 recovered all assets. Estimated replacement value of assets recovered is \$57,220 USD POC: (b)(6), 71530, (b)(6)

Code 715 MK-5 completes exercise mine recovery operation March 14-19 2016 MK-5 MMS embarked aboard Naval Recovery Craft 1 (RSC-1) and provided mine exercise training support for southern California Offshore Range (SCORE) at San Clemente Island. The MK-5 MMS is a deep water recovery system which utilizes California Sea Lions to retrieve objects from the sea floor in depths beyond human capabilities. SSC Pacific Code 71530 employees (b)(6) organized & led the recovery operation. Veterinary service was provided by contract staff from National Marine Mammal foundation staff Erin Brodie. MK-5 MMS was tasked with localization & recovery of 62 Air Dropped Mine Exercise Training Shapes (METS) at San Clemente Island at Depths of up to 400' to provide data & training for USAF 340th Weapons Squadron (340WPS). MK-5 recovered all assets configured in MK-5 system specifications. Estimated replacement value of assets recovered is \$516,000 USD. POC: (b)(6), 71530, (b)(6).